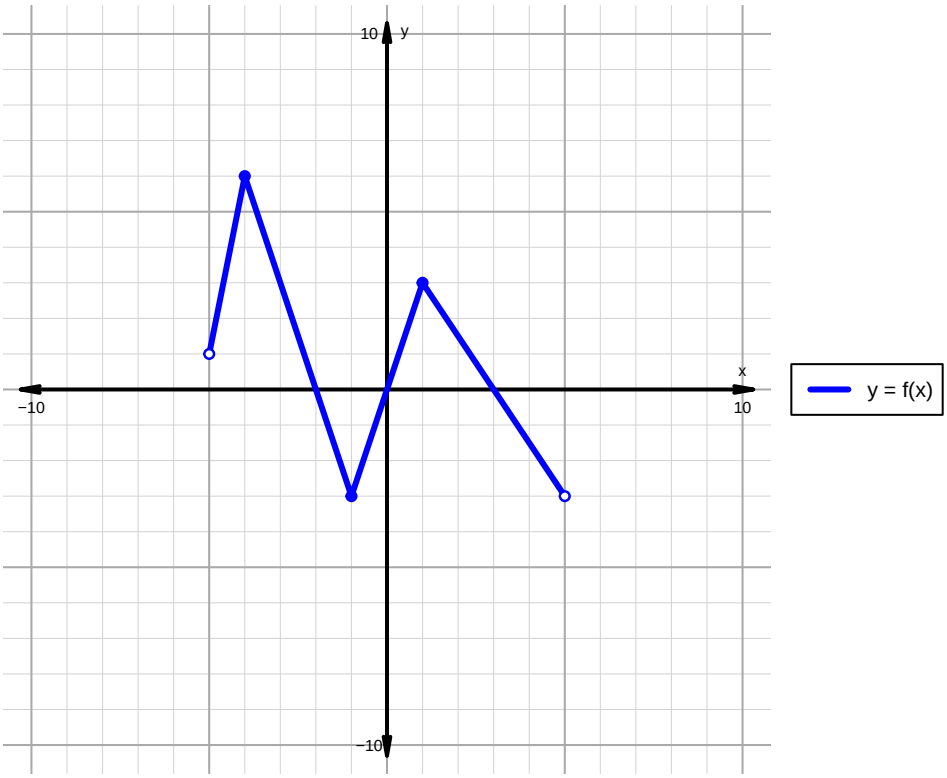
Name: Date:

Intervals, Transformations, and Slope Solution (version 28)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5,-2)\cup(0,3)$
Negative	$(-2,0)\cup(3,5)$
Increasing	$(-5,-4)\cup(-1,1)$
Decreasing	$(-4,-1)\cup(1,5)$
Domain	$(-5,5)$
Range	$(-3,6)$

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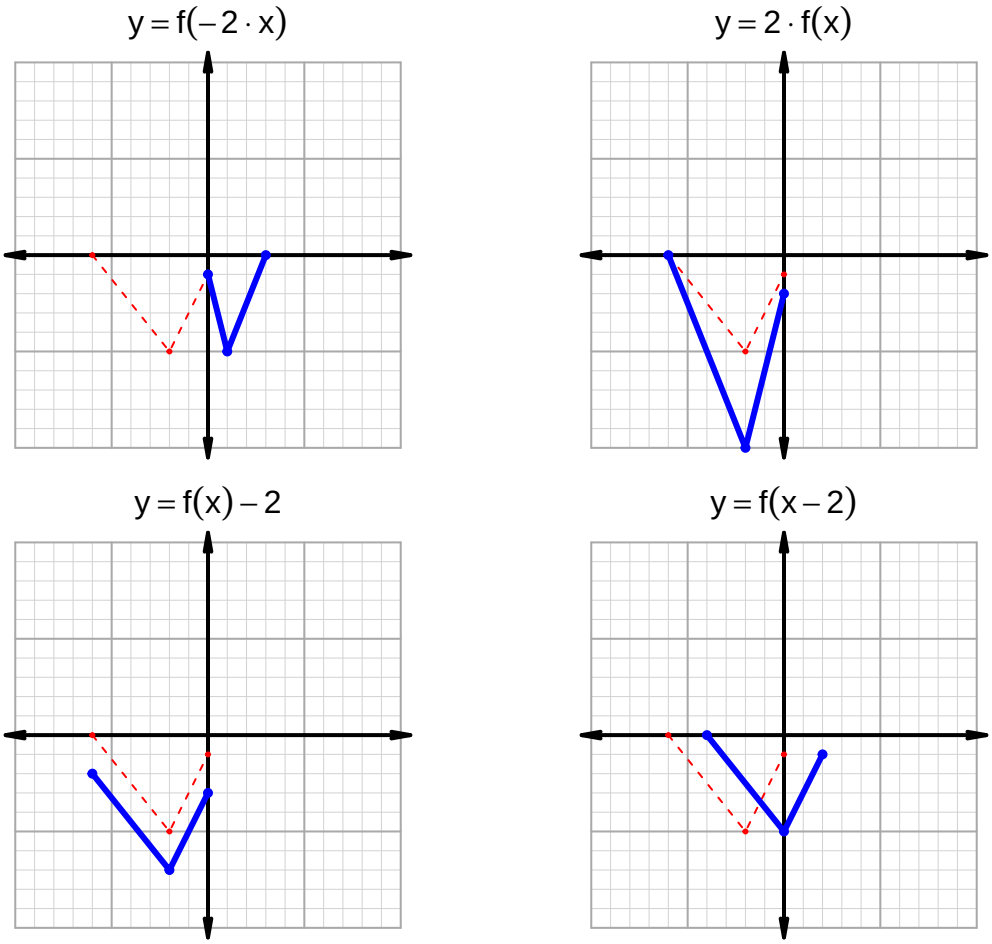
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 28$ and $x_2 = 40$. Express your answer as a reduced fraction.

x	$g(x)$
28	39
33	28
39	40
40	33

$\frac{g(40)-g(28)}{40-28} = \frac{33-39}{40-28} = \frac{-6}{12}$

The greatest common factor of -6 and 12 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{2}$$